



***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

Applicant: Tadashi EMORI, et al.

Title: SPEAKER'S VOICE  
RECOGNITION SYSTEM,  
METHOD AND RECORDING  
MEDIUM USING TWO  
DIMENSIONAL FREQUENCY  
EXPANSION COEFFICIENTS (As  
Amended)

Appl. No.: 09/695,067

Filing Date: 10/25/2000

Examiner: M. N. Opsasnick

Art Unit: 2655

**INFORMATION DISCLOSURE STATEMENT**  
**UNDER 37 CFR §1.56**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Submitted herewith on Form PTO/SB/08 is a listing of documents known to Applicants in order to comply with Applicants' duty of disclosure pursuant to 37 CFR §1.56. A copy of each listed document is being submitted to comply with the provisions of 37 CFR §1.97 and §1.98.

The submission of any document herewith, which is not a statutory bar, is not intended as an admission that such document constitutes prior art against the claims of the present application or that such document is considered material to patentability as defined in 37 CFR §1.56(b). Applicants do not waive any rights to take any action which would be appropriate to antedate or otherwise remove as a competent reference any document which is

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determined to be a *prima facie* art reference against the claims of the present application.

### **TIMING OF THE DISCLOSURE**

The listed documents are being submitted in compliance with 37 CFR §1.97(d), before payment of the issue fee.

### **RELEVANCE OF EACH DOCUMENT**

The Examiner in the corresponding Japanese application stated:

#### Record of Prior Art Literature Search Results

Fields Searched        G10H 15/00–15/28 (IPC 7th Edition),  
JICST File (JOIS), IEEE Xplore

#### Prior Art Literature

- ✓1.    Li LEE and Richard ROSE, “A Frequency Warping Approach to Speaker Normalization,” IEEE Transactions on Speech and Audio Processing, January 1998, Vol. 6, No. 1, p. 49–60
- ✓2.    Toshiaki FUKUDA and Yoshinori SAGISAKA, “Speaker Normalized Acoustic Modeling Based on 3-D Viterbi Decoding,” Proceedings of the 1998 IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP '98), May 12, 1998, Vol. 1, p. 437–440
- ✓3.    MAEDA, TAKEDA, KAJITA, and ITAKURA, “Voice Quality Change in STRAIGHT through Expansion and Contraction in the Spectrum Frequency Axial Direction,” Acoustical Society of Japan Spring 1999 Research Report Conference Compendium 1, 10 March 1999, 1-3-4, p. 187–188
- ✓4.    TOKUDA, MASUKO, KOBAYASHI, and KITAMURA, “Mel-Cepstrum Speech Analysis Using Frequency Conversions Based on a Two-Dimensional All-Path Function,” Acoustical Society of Japan Spring 1998 Research Report Conference Compendium, 17 March 1998, 3-7-13, p. 279–280
- ✓5.    MIYAJIMA, WATANABE, TOKUDA, KITAMURA, and

KATAGIRI, "Speaker Recognition Based on Discriminative Feature Extraction: Optimization of Mel-Cepstrum Features," Technical Report of the Institute of Electronics, Information, and Communication Engineers, "Voice," 6 August 1999, Vol. 99, No. 256, SP99-62, p. 1-8

ø6. EMORI and SHINODA, "Regulation of Acoustic Path Length Using Rapid Best-Guess for Voice Recognition," Technical Report of the Institute of Electronics, Information, and Communication Engineers, "Spoken Language Data Processing," 20 December 1999, Vol. 99, No. 108, 99-SLP-29, p. 49-54

An English translation of the foreign-language document is not readily available. However, the absence of such translation does not relieve the PTO from its duty to consider the submitted foreign language document (37 CFR §1.98 and MPEP §609).

Applicants respectfully request that any listed document be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO/SB/08 be returned in accordance with MPEP §609.

**STATEMENT**

The undersigned hereby states in accordance with 37 CFR §1.97(e)(1) that each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to filing of this Statement.

The undersigned hereby states in accordance with 37 CFR §1.704(d) that each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of the information disclosure statement..

**FEE**

A fee in connection with submission of an information disclosure statement under 37 CFR §1.97(d) in the amount of \$180.00 in accordance with 37 CFR §1.17(p) should be charged to Deposit Account No. 19-0741.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 CFR §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

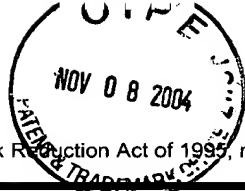
Respectfully submitted,

Date 5 November 2004

By Rachel Caplan 36,489

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> Date Submitted: November 5, 2004 (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	09/695,067
		Filing Date	10/25/2000
		First Named Inventor	Tadashi EMORI
		Group Art Unit	2655
		Examiner Name	M. N. Opsasnick
		Attorney Docket Number	071671-0156

Sheet 1 of 1

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U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Documents	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)				

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	A1	TADASHI EMORI KOICHI SHINODA, Vocal Tract Length Normalization Using Rapid Maximum-Likelihood Estimation for speech Recognition, pages 49-54	

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.